CIHR IRSC
Instituts de recherche en santé du Canada

Winter 2006

Your Health Research Dollars at Work

An Update from the Canadian Institutes of Health Research

President's Message

As President of the Canadian Institutes of Health Research (CIHR), I would like to welcome back all of the re-elected Members of Parliament and extend a special welcome to all newly elected Members of Parliament.

CIHR is the federal government's funder of health research. With a direct budget of $706M, we fund nearly 10,000 researchers and trainees in over 250 institutions across Canada. The research that CIHR funds ranges from understanding the molecular and genetic basis of diseases like cancer, arthritis, and diabetes, to establishing the evidence that led to the landmark announcement by the provinces on December 12th, 2005 agreeing to benchmarks for wait times for hip replacements, cataract surgery, and radiation therapy for some cancers.

With our partners, CIHR's 13 unique virtual health research institutes have developed major priority initiatives in areas of research that are important to Canadians, such as obesity, palliative care, rural and northern health, Aboriginal health, aging, genetics and our health care system, timely access to quality care, and mental health in the workplace.

But CIHR is about more than just funding research. We also have successful programs to help build Canada's knowledge-based economy through the commercialization of research in Canadian universities and hospitals.

The creation of CIHR in 2000 was an unambiguous statement by Canadians, through Parliament, of the importance of health research to Canada. The prevention, eradication and treatment of disease and the building of an affordable but effective, innovative and publicly funded health care system all requires research. Likewise, Canada's global competitiveness requires that we become an innovative country, whose future economic growth will be increasingly based on the education and skills and science base of its citizens.

I encourage you to look through this newsletter and I hope that you will feel free to contact me if you have any questions or comments about CIHR and the work that we do on behalf of all Canadians.

Alan Bernstein

Dr. Alan Bernstein, O.C., FRSC
President, Canadian Institutes of Health Research

WAIT TIMES

CIHR: Helping Canada meet its targets

Improving access to quality health care is on the top of Canadians' priority list, and CIHR is working to help all levels of government address this issue.

A unique partnership between CIHR, the provinces and territories recently produced research evidence that helped establish wait time benchmarks for a variety of medical procedures. As part of the partnership, CIHR helped mobilize research teams from across Canada to review and synthesize evidence from the best available research in three priority areas: cancer, joint replacement and sight restoration.

On November 16, eight CIHR-supported research teams delivered their reports. This evidence is being used by provincial and territorial governments to help create benchmarks.

CIHR is now moving to ensure policy-makers have the evidence they need to reduce wait times in other priority areas: cardiac treatment, diagnostic imaging and other types of, or treatment for, cancer. CIHR anticipates funding the next research teams by July, with their first reports due just eight months later.

"Canada has a wealth of health research expertise that can be mobilized quickly to respond to pressing public priorities. CIHR provides the mechanism to bring these teams together to help policy-makers improve timely access to quality care across the spectrum of health care," says Dr. Alan Bernstein, President of CIHR.

Fast Facts About CIHR

1. CIHR supports nearly 10,000 researchers in 250 institutions in every province of Canada.
2. CIHR supports more than 700 trainees in 88 multidisciplinary training programs. Another 1680 receive graduate and post-doctoral awards, while 4200 trainees are indirectly supported through grants.
3. 126 partners contributed $88 million to CIHR research grants and programs in 2004-2005.
4. CIHR funds research across the full spectrum of health research, from biomedical to clinical, health services and population health research.
5. CIHR supports the translation of health research discoveries into new health services and products and improved health policies and programs.

Canada

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NATIONAL UPDATE

Caring for an aging population

A team of 180 researchers from 26 Canadian academic institutions has launched a longitudinal study designed to keep seniors healthy longer, and provide more effective treatments and programs. Funded by CIHR and led by researchers at Dalhousie, McMaster and McGill universities, the Canadian Longitudinal Study on Aging will track some 50,000 men and woman aged 40 and older for 20 years. It will examine biomedical as well as social and economic factors that may affect the overall health of aging Canadians.

Novel alternatives to antibiotics

CIHR is working with partners to explore novel alternatives to antibiotics. Some of these alternatives include:

- increasing the body's innate ability to resist infection by boosting the immune system;
- exploring new therapies such as phage and probiotics; and
- modifying physical environments through techniques such as hyperbaric conditions and temperature control, and applying technologies such as lasers and UV light to reduce the risk of infection.

PRINCE EDWARD ISLAND

Estrogen protects women from stroke

Charlottetown: University of Prince Edward Island student Karen Crosby is participating in a CIHR-funded project that could reduce the damage people experience after a stroke. Crosby, who is completing her Master of Science at UPEI, is working with peers to find out why estrogen is protective for female stroke victims. The research could result in a drug that mimics the effects of estrogen, without having to use hormone replacement therapy. Crosby presented her research project on November 19, 2005, at the first P.E.I. Health Research Fair, held in conjunction with CIHR.

SASKATCHEWAN

Injury prevention on the farm

Saskatoon: Dr. William Picket is conducting research that will provide critical data needed to develop strategies to reduce the number of deaths and injuries among Canada's agricultural workers. The University of Saskatchewan researcher is studying the importance of operational practices as potential causes of injury among this population, specifically children, farm owner-operators, young workers and the elderly.

INTERNATIONAL UPDATE

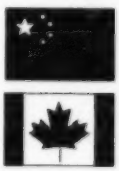
Researchers map cell signaling network

Three CIHR-funded researchers have helped to unravel the circuits that control how cells function, in an international study led by Dr. Michael Snyder of Yale University, a member of CIHR's Institute of Genetics Advisory Board. Understanding abnormalities in cell signaling may eventually lead to the development of new drug therapies for diseases such as cancer, diabetes and AIDS. The CIHR-funded University of Toronto researchers who took part in the study were Richelle Sopko, Dr. Michael Tyers and Dr. Brenda Andrews.

Joint research with developing countries

Canada has launched a $10-million competition to support collaborative research among Canadian researchers and their peers in low- and middle-income countries. The grants are part of a collaborative new health program developed by the Global Health Research Initiative, a partnership of CIHR, the Canadian International Development Agency, Health Canada and the International Development Research Centre.

CIHR and China forge closer research ties



CIHR and the National Natural Science Foundation of China have forged a new partnership to encourage more collaborative research between Canada and China. Canadian researchers will have access to $450,000 annually to partner with their Chinese peers in six areas: infectious diseases, neurosciences, diabetes and obesity, cardiovascular health, genetics and child/youth health. Funding will start this year.

ALBERTA

Helping women avoid heart disease

Dr. Sandra Davidge

Edmonton: Aging and menopause are associated with oxidative stress, which has been implicated as a cause of cardiovascular disease. Dr. Sandra Davidge of the University of Alberta is studying the mechanisms by which oxidative stress is increased by aging and the effects of estrogen and other alternative therapies on the cardiovascular system. At a time when there is conflicting evidence about the long-term cardioprotective effects of estrogen, her research could lead to new approaches to reduce cardiovascular disease among older women.

QUEBEC

Promising alternatives for wound repair

Boucherville: Dr. Francois Auger of Université Laval is collaborating with Dr. Teodor Veres of the National Research Council's Industrial Materials Institute on a joint CIHR-NRC initiative that could one day increase the amount of readily available transplant materials. Dr. Auger has done groundbreaking work in growing skin, blood vessels, ligaments, and cartilage at his Laboratory for Experimental Organogenesis. The project, which runs to 2007, is one of three currently funded under the NRC-CIHR Science and Technology Convergence for Health Innovation Partnership.

DNA find could help B12 deficiency

Montreal: Scientists at the McGill University Health Centre and McGill University have identified a gene responsible for a disease that impairs the body's ability to handle vitamin B12 and that may contribute to heart disease, stroke and dementia. The CIHR- and March of Dimes-funded research will allow doctors to perform earlier diagnosis and assess "carriers" of the disease; it could also open the door to new and improved treatments for this debilitating disease. The study was led by Dr. David Rosenblatt, Chair of Human Genetics at McGill.

IBEX sets sights on new cancer test

Dr. Eleftherios Diamandis

Montreal: A simple test could soon detect and monitor certain cancers. Montreal biotech company IBEX Technologies Inc. is in negotiations to license two new ovarian cancer tests based on a family of genes known as kallikreins. The technology stems from research conducted by CIHR-supported Dr. Eleftherios Diamandis and his colleagues at Toronto's Mount Sinai Hospital. IBEX has already hit the market with two kallikrein-based assays (hK6 and hK10).

MANITOBA

Manitoba's global contribution to HIV/AIDS

Drs. Frank Plummer and Alan Ronald, two CIHR-funded researchers, and the UN Special Envoy for HIV/AIDS in Africa, Mr. Stephen Lewis, received the 2005 International Award in recognition of their medical and humanitarian support of Africa and their fight against HIV/AIDS. The award was presented on November 30, 2005, by the St. Boniface Hospital & Research Foundation.

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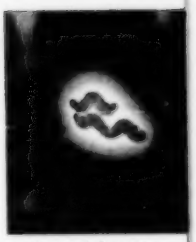
ONTARIO

Tracking Walkerton residents' health



A *Campylobacter* bacterium

London: CIHR investigator Dr. Janet Pope wants to find out if Walkerton, Ontario, residents who became ill from contaminated water in 2000 are at risk of developing a type of chronic arthritis caused by certain bacteria—particularly *Campylobacter*, which was found in the water along with *E. coli*. A rheumatologist at the University of Western Ontario, Dr. Pope is leading the largest study of its kind into the incidence of chronic reactive arthritis (ReA) following a multi-bacterial population outbreak. Her research could lead to a better understanding of the proportion of people who will develop chronic inflammatory arthritis after drinking contaminated water as well as the disability costs from chronic ReA.

Improving pain management

Toronto: Numerous barriers currently impede our ability to effectively manage chronic pain, including a lack of physician knowledge and training, the commonly held belief that pain is accepted and normal and the absence of health policy in pain management. To deal with these challenges, Dr. Alex Jadad of the Toronto General Research Institute has tabled several recommendations, including implementing an arms-length approach to education and research and reassessing the emphasis on efficacy trials as the centrepiece of the drug approval process.

Are Toronto's Aboriginal youth at risk?

Toronto: Are Aboriginal children and adolescents living in Toronto more vulnerable to mental health disorders than non-Aboriginal youth? Dr. Violet Kaspar at Toronto's Centre for Addiction and Mental Health, University of Toronto, is examining how the two groups differ in terms of mental health symptoms and disorders. Of particular interest is the psychiatric risk associated with exposure to adverse events and experiences, including trauma, discrimination and family/school stress.

ONTARIO & BRITISH COLUMBIA

Anti-collision wheelchair takes 1st prize

Dr. Alex Mihailidis

Toronto and Vancouver: A team of researchers from the University of Toronto and the University of British Columbia captured first prize in an international competition for designing an anti-collision system for powered wheelchairs. "We believe our anti-collision system could help people with dementia to get around independently, with big implications for their quality of life," said Dr. Alex Mihailidis, a U of T assistant professor. The research is part of a larger study run by the Toronto Rehabilitation Institute, with funding from CIHR.

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BRITISH COLUMBIA

The end of hip replacements?

Dr. Fabio Rossi

Vancouver: By combining stem cell science with orthopedic surgery, researchers at the University of British Columbia and Vancouver Coastal Health Research Institute aim to reduce the 10% failure rate in hip replacements and make repeat replacements and other joint repairs obsolete within 10-15 years. Led by Dr. Fabio Rossi, the CIHR-funded team will create a new fixative mixture seeded with the patient's own stem cells, extracted from adult bone marrow. This "living glue" will form a strong, organic environment to secure artificial joints, vertebrae or other replacement structures.

ONTARIO & QUEBEC

Pinpointing the source of neuropathic pain

Dr. Michael Salter

Toronto and Québec City: Researchers at Université Laval and The Hospital for Sick Children (SickKids) have identified a key protein in a mysterious nerve condition that could one day lead to a cure for severe chronic pain. "Effective pain diagnosis is nearly as big a challenge as developing effective pain therapeutics... We are hoping to develop a probe that can measure the response of microglia in people with peripheral nerve injury," said Dr. Michael Salter, a CIHR-supported investigator at SickKids.

CIHR's *Your Health Research Dollars at Work* is available to Members of Parliament, Senators and policymakers to communicate the benefits of the Government of Canada's investment in health research. News items can be reproduced for use in householders and other communications materials. Visit CIHR's website to download this issue in electronic form: **www.cihr-irsc.gc.ca**

CIHR also produces an information kit called *Health Research: Investing in Canada's Future*, that provides a snapshot of the research results that are making a difference to the health of Canadians, to our health care system and to our economy. If you would like a copy, please contact Caroline Kay, CIHR's Production Coordinator at **ckay@cihr-irsc.gc.ca**.

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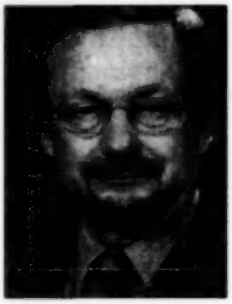
NOVA SCOTIA

Preventing organ transplant rejection

Halifax: What can be done to stop our bodies from rejecting organ transplants? Dr. Kenneth West believes dendritic cells may hold the answer. The Dalhousie University researcher has already shown that these specialized immune system cells must change the shape of their cell skeleton to activate this anti-transplant response. His follow-up research could lead to new therapies that will prevent the dendritic cell from changing its shape, thereby preventing organ transplant rejection.

NEWFOUNDLAND AND LABRADOR

How hepatitis C persists in the body



Dr. Thomas Michalak

St. John's: The hepatitis C virus (HCV) is the most common blood-born infection and the major cause of chronic hepatitis in Western countries. Dr. Thomas Michalak of Memorial University of Newfoundland and his team have found convincing evidence that low quantities of the virus can persist in the lymphatic system for a very long time after recovery. Further research will generate new knowledge about the natural history of HCV infection, how it moves from the liver to lymphoid cells, how it persists and the susceptibility of HCV replicating in lymphoid cells despite antiviral treatment.

Upcoming Events

May 26-28, 2006: 26th Annual Meeting of Canadian Biomaterials Society, Calgary

June 2-6, 2006: International Osteoporosis Foundation, 2006 World Congress, Toronto

About the Canadian Institutes of Health Research

The Canadian Institutes of Health Research is the Government of Canada's agency for health research. Its objective is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health care system. Comprised of 13 Institutes, CIHR provides leadership and support to close to 10,000 researchers and trainees in every province of Canada.